

VIA FACSIMILE (703) 872-9306

Remarks

This letter responds to the Office Communication dated 9/14/04. A one-month extension of time petition is required for a timely response, which is attached hereto. However, in the event that this response does not arrive in a timely fashion, then a provisional petition for a further extension is hereby requested, and the fee therefor may be charged to Deposit Account No. 50-0861.

Claims 1-13 have been withdrawn as being directed to unelected claims. Claims 14 and 15 have been amended herein. No new matter has been added thereby. The Examiner's drawing objections and claim rejections have been overcome or traversed herein. For the reasons given below Applicants respectfully request reconsideration of the application.

1. Species Election.

The Examiner in this latest Action stated that "Applicant's election of Species II relating to Fig. 7-8 is incorrect because claims 14-15 are directed to Species I relating to Fig. 1-6." This is inconsistent with the Examiner's earlier determination provided in the paper mailed 10/3/03 wherein the Examiner stated "Species I: Embodiment of Fig. 1-6; and Species II: Embodiment of Fig. 7-8." And again in Paper 9, the Examiner stated that Species I is Figs 1-6, Species II in Figs 7-8. Applicants last Response dated 6/7/04 recites that Applicants have elected Group IV, the species of claims 14-15, disclosed in Figs 7-8. Therefore, Applicant's election is not in error. In any event, it would seem that the Examiner has searched the prior art and examined claims 14-15, which are recited as the basis for this Office Action.

To muddy the waters yet further, Applicants bring to the Examiner's attention that claim 14 is directed to Species I, and claim 15 to Species II. This is seen by examining the claims in light of the Drawings (Figs 1-2, Species I; Figs 7-8, Species II). Claims 14 and 15 differ only in the upper stage and power means elements. In claim 14 the upper stage requires a loading segment, which is replaced by the alternate embodiment's reverser shuttle in claim 15. Also, in

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claim 14 the power means comprises a pulley to transfer power to the drive shaft whereas in claim 15 the power means has a drive gear for the same function. Clearly the initial determination of which claims belong to which species was in error, which is what has caused the confusion. If the Examiner wishes to proceed in the examination of the two species at this time, Applicants do not object, and this Response has been written addressing both claims.

Applicants reiterate their traversal of the original Restriction/Election requirement, made in the Response filed 11/3/03.

2. Objections to Drawings

The Examiner asserts that the term "electrical communication" must be shown in the drawings or cancelled from the claims. Applicants respectfully traverse this objection, for the following reasons.

The term "electrical communication" is used in claims 10, 14 and 15. Since only claims 14 and 15 are pending, these comments apply only to them. The term appears in the context of the last element of claims 14-15 "electronic control means for integrating all of the apparatus, comprising a microcontroller in *electrical communication* with a switch on a keypad, a power source, a motor, and safety interlocks." The term "electrical communication" is a well-used term of art that simply points out that the components are electrically connected and able to exchange information and/or power electronically. It is well within the ordinary skill of the art to understand that "electrical communication" requires wires, or infrared signaling apparatus, or microwave communication, or wireless communication, or any other mode of electrical communication. Wires could have been shown, but are impliedly present due to the enablement provided by Applicants. Therefore, Applicants respectfully disagree that the precise mode of electrical communication must be added to the drawings. The invention is enabled without such, as the standard for enablement is whether one of ordinary skill would have had to practice undue experimentation in order to reduce the invention to practice. Clearly, one of ordinary skill implicitly understands that if the electronic components mentioned are in electrical communication, they must be communicating over some medium such as wires. The Federal Circuit said that "Patents are not production documents . . . [T]he law requires that patents disclose inventions, not mass-production data, and that patents enable the practice of inventions,

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not the organization and operation of factories." *Christianson v. Colt Industries*, 822 F. 2d 1544, 1562 (Fed. Cir. 1987).

For the foregoing reasons, Applicants respectfully request the Examiner to withdraw the objection, and reconsider the application.

3. Second Objection to Drawings

The Examiner asks for corrections to the drawings because Applicants have used numbers 85 and 86 to refer to two separate power sources. Applicants respectfully traverse this request, for the following reasons.

There are two power sources, 85 and 86, and that is why there are two numbers, 85 and 86. Power source 86, shown in Fig. 2 in the lower right of the device and described on p. 8 line 22, is a battery. Alternatively the power source may be an ac source. Power supply 85 is shown in Fig. 8 at the lower left side of the device.

For the foregoing reasons, Applicants respectfully request the Examiner to withdraw the objection, and reconsider the application.

4. Claim Objections

The Examiner has objected to claims 14 and 15 because of certain informalities regarding the "motor" and "drive shaft." Applicants have amended claims 14 and 15 to obviate this objection by changing "a motor" to "said motor" in claim 15, and by adding a "said" before "drive shaft" in element (b) of claim 14.

For the foregoing reasons, Applicants respectfully request the Examiner to withdraw the objection, and reconsider the application.

5. Second Claim Objections

The Examiner has objected to claim 15 because of certain informalities regarding "adap[ted]" in line 15. This has been amended by replacement.

For the foregoing reasons, Applicants respectfully request the Examiner to withdraw the objection, and reconsider the application.

Claim Objections under 35 USC 112/2d Paragraph

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6. The Examiner states there is insufficient antecedent basis for "said loading cam" in claim 14. The portion of the claim containing that phrase has been deleted because it was there by mistake, and so the basis of objection is mooted.

7. The Examiner also states that "it is not clear what 'electronic control means for integrating all of the functions of the apparatus' encompass". The "electronic control means" is described in the specification from page 7, lines 8-14, and page 8, lines 11-27. Electronic control means includes a printed circuit board 70 which contains the microcontroller and associated circuits and controls the operation of the blade changer, push-button switches 76, 77 on keypad 75, a power source 85, and safety interlocks 155. The "blade advance" signal comes to the electronic circuit from keypad 75 via blade advance switch 76. In a preferred embodiment the power for the blade changer is supplied from the on-board battery 86.

Electronic control means are depicted schematically in Fig. 6. It includes a printed circuit board 70 (Fig. 2) mounted below the key pad which contains the microcontroller and controls the operation of the blade changer. In a preferred embodiment, the electronic controls are on-board, but alternatively they may be contained in an instrument housing separate from the blade changer. A suitable microcontroller for driving the operations of the blade changer is selected from the PIC family of microcontrollers, manufactured by Microchip, Inc., Chandler, AZ. One of ordinary skill in the electronic arts is able to select and implement an individual PIC controller for these purposes. The "blade advance" signal comes to the microcontroller circuit from user-activated push-button switch located on keypad 75, also a part of the control means. In a preferred embodiment the power for the blade changer is supplied from the on-board battery 86. Alternatively, power could be supplied from an AC adapter. The electronic control means also enables the interlock function. The safety interlock feature hardware includes a touch memory device 150 (also known as a "data button") mounted on a blade cartridge, the microcontroller, touch memory reader, and electronically-controlled locking mechanisms for the cartridges 40.

It is Applicants' position that the above description, taken directly from the specification, outlines all of the functions and components necessary for performing them.

For the foregoing reasons, Applicants respectfully request the Examiner to withdraw the objection, and reconsider the application.

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8-9. Rejection of claims 14-15 under 35 USC 103 over Pickett '600 in view of Schaller '858

The Examiner has rejected claims 14 and 15 as being unpatentable under 35 USC 103 over Pickett US 4700600 in light of Schaller, US 3751858. Applicants respectfully traverse this basis of rejection.

An analysis for obviousness requires a determination of the scope and content of the prior art, the differences between the prior art and the claims at issue must be ascertained, and the level of ordinary skill in the pertinent art must be resolved. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). To establish a *prima facie* case of obviousness, the Office must show three basic criteria: (1) there must be a suggestion or motivation to combine the reference teachings; (2) there must be a reasonable expectation of success; and (3) all of the claimed limitations must be taught or suggested in the combined prior art references. M.P.E.P. § 2143.

Pickett, US 4700600, is directed to a disposable blade holder for a microtome. The apparatus is adapted to receive both thick and thin blades. Blades of different width are dispensed from an associated dispenser, which also has a compartment for receiving used blades. The blade holder device is entirely manually operated.

The Examiner asserts that Pickett discloses the inventions substantially as claimed and recites the various claim elements of Applicants' invention, including the upper stage element including the loading segment. In the instant invention, the loading segment is the toothed gear called out in Figs. 1 and 2 as 30. It functions to push the blades out of the supply cartridge 215 and into position between clamping plate 20 and support plate 25, which are then clamped on the blade, holding it in place for cutting. There is no such equivalent function or device in Pickett. The Examiner cites to Figs. 37 and 38 of Pickett for teaching a member that pushes blades out of a cartridge 90. However, Pickett describes the dispenser in the Brief Description of the Drawings as "FIG. 37 is a perspective view of a conventional disposable blade dispenser modified according to the invention." Conventional dispensers are manually actuated to remove a blade, and that is clearly implied by this quote taken from Pickett:

Also, the disposable blades can be replaced from either side of the holder 18 as preferred by the individual operator. Replacement blades whether thick or thin but of the same width are easily installed by simply turning cam shaft 60 into an "unlocking" position and inserting a new blade from either side, usually determined by the operator being left or right handed and without requiring adjustment of the blade holder 18.

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'600 at col. 11, lines 10-18.

The insertion of the new blade is made by hand, as no other mechanism for automated loading is disclosed. Therefore, the member for pushing blades out the Examiner referred to above is simply not present in Pickett.

In addition, the Examiner alleges that a drive shaft exists in Pickett ("drive shaft having a clamping cam 60"). The conventional definition of a "drive shaft" requires that it be powered. See Webster's 9th New Collegiate Dictionary: "drive shaft: a shaft that transmits mechanical power." The clamping cam 60 in Pickett is manually operated, and does not have a "drive shaft" associated with it because there is no motor in Pickett. In the instant invention, the drive shaft 65 (Fig 2) is used as follows:

The purpose of the motor, gear and pulley is to rotate drive shaft 65 and thus provide the power for moving loading segment 30 from left to right, and/or from right to left; and simultaneously moving clamping plate 20 forward and backward in order to either clamp or release a blade in the cutting area.

Application, page 6, lines 27-30. Thus, the drive shaft is a powered drive shaft, unlike Pickett.

The Examiner then combines Schaller with Pickett in an attempt to arrive at the instant invention. However, the Examiner provides no source of motivation to combine these two teachings. Further, Schaller '858 is directed to an automated blade changer for the work rest structure of a centerless wire grinder. In accord with the '858 disclosure the blades are releasably secured to the blade support by solenoid-actuated clamping fingers. The different sized blades are stored in a selectively movable rack and, assuming the blade support to be initially empty, this rack moves on signal to present the blade that is called for to a pickup mechanism on a swingable blade carrier. The pickup mechanism withdraws the blade from the rack after which the carrier moves to position the blade above the work rest. The pickup mechanism then deposits the blade in the work rest and the clamping fingers are actuated to hold it there. As each step in the sequence of operation is completed, a suitable switch is actuated to initiate the next step.

Schaller '858 was filed in 1972, long before the advent of microcontrollers could be used to control such a machine. In fact, PCs didn't exist then either. What did exist was large main-frame computers sold by Digital Equipment Corp., Honeywell and IBM.

The Examiner has taken the position that Schaller inherently discloses a keypad. This is not supported by the history of the '858 patent. Schaller teaches the use of switches to actuate

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solennoids to move the various components. Schaller at best suggests the use of a computer to automate the functions of the blade changer-it certainly does not enable it.

A *prima facie* case of obviousness has not been made by the Examiner for several reasons. First, there was no suggestion to combine these references, which suggestion must be found in the references themselves. Secondly, the references, even if combined without the use of hindsight reconstruction, still do not result in Applicants' invention because numerous components are simply not shown by the prior art of record. For instance, the power means including the drive shaft, loading segments, and reverser shuttle are not found in Pickett. The mechanized blade changer of Schaller is far from automated, although it does disclose the rudiments of a powered device.

The Examiner further relies upon Tamura to provide the missing electric motor and a pulley. Tamura is directed to an electromagnetically-driven microtome, and does contain an electric motor and pulley. However, the electric motor and pulley are admittedly old in the art. However, no suggestion for combining the motor and pulley of Tamura with the previous combination of elements of Pickett and Schaller was presented, and in any event does not result in the Applicant's claimed invention.

Finally, even assuming *arguendo* that the references cited do contain all of Applicants claimed elements, there is little expectation of success in arriving at Applicant's novel and inventive automated blade changer devices.

For the foregoing reasons, Applicants respectfully request the Examiner to withdraw the rejection of claims 14 and 15 for obviousness, and reconsider the application.

Respectfully submitted,

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Huw R. Jones, Esq.
Attorney for Applicants
Reg. No. 33,916